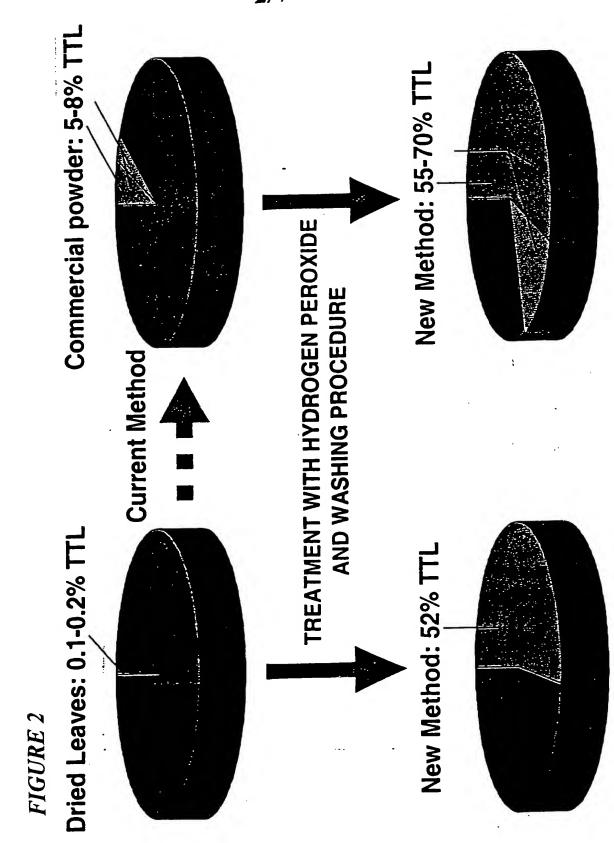


FIGURE 1



From commercial powder with 5-8% of terpene trilactones(ginkgolides A/B/C/J and bilobalide) FIGURE 3

1. SOLUTION

Suspend 25 g powder and boil for 1 h in A: 500 ml 5% H₂O₂ B: 5% H₂O₂/ 1% H₂SO₄

C: 5% H₂O₂ and adjust to ph 4.5-6 before extraaction

2. EXTRACTION

Extract with ethyl acetate (1st: 250 ml, 2nd: 125 ml) Combine organic layers

3. PURIFICATION

Wash organic layer with
A: sat. NaHCO₃ (1st: 150 ml, 2nd/3rd: 75 ml)
B: sat. NaSO₃ (1st: 150 ml, 2nd: 75 ml)
C: Water (75 ml)
D: 80% NaCl (150 ml)

4. Workup

Analyse samples by quantiative NMR (in DMSO/maleic acid/acetic acid) Dry organic layer over Na,SO, and remove solvent

RESULTS: get 1.3-1.9 g terpene trilactones from 25 g powder (5.2-7.6%)

PURITY: 55-70% \pm 5 % (without column chromatography or crystallization)

purity in %

95 90 90 80 75 70 66 60 60 40 40 33 35 25 25 . 20 5 5 0 5% H₂O₂ 5% H₂SO₄ with washing 100,8 74,2 74,8 8 20 ml oxidation solution, 10 min boiling, only 1st extraction (15 ml EtOAc), 5% H₂O₂ 4% H₂SO₄ washing with 96,4 76,2 79,1 washing with sat. NaHCO₃, sat. Na₂S₂O₃ and sat. NaCl (15 ml each). purity in % 3% H₂SO₄ 5% H₂O₂ washing with 98,2 76,4 77,8 5% H₂O₂ 2% H₂SO₄ washing with 9'6/ 93 74 5% H₂O₂ 1% H₂SO₄ washing with 71,8 9'08 89,1 0.5% H₂SO₄ 5% H₂O₂ washing with 92'6 75,5 79,1 5% H₂O₂ 0% H₂SO₄ washing with 134,8 103,6 6'9/ mg TTL/g mg extract/g 0% H₂SO₄ 5% H₂O₂ washing without 247,8 37,9 94 FIGURE 4 €UTT gm→ 50 100 150 250 200 F-mg/g -- purity a/gm

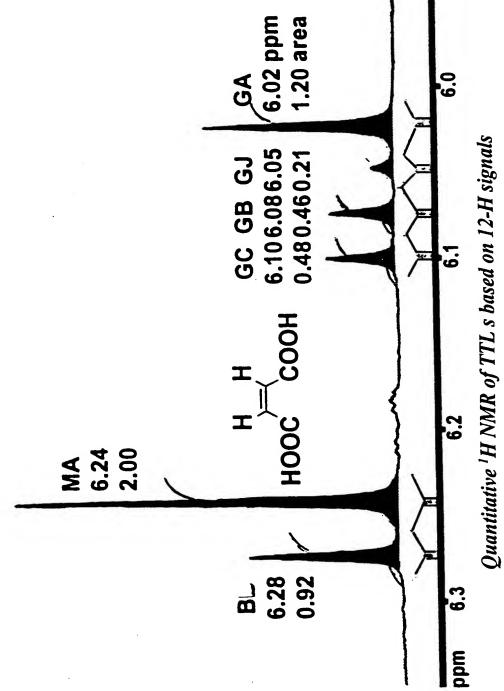
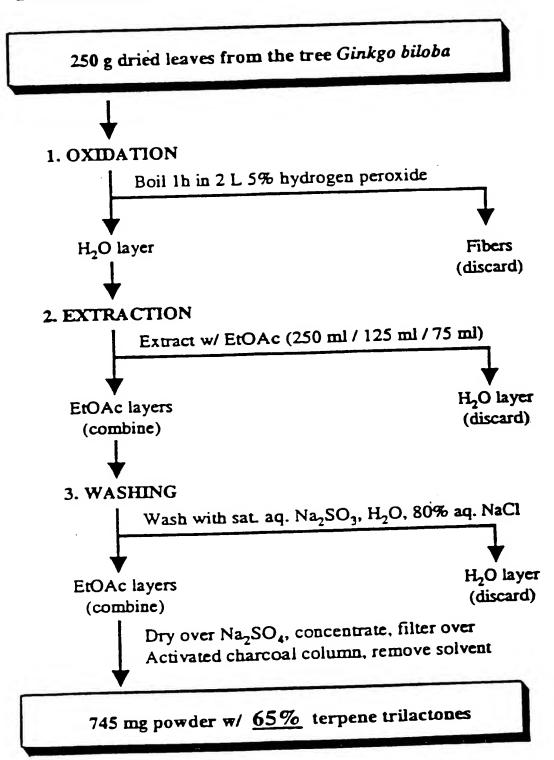


FIGURE 5



Optimized extraction protocol for dried leaves.

FIGURE 7A

